MIT's Oldest and
Largest Newspaper

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The Tech
Established 1881

Volume 138, Number 29
Tuesday, November 20, 2018

WEATHER, p. 2
TUE: 40°F | 31°F Showers
WED: 38°F | 13°F Partly cloudy
THU: 20°F | 14°F Partly cloudy

KEVIN LY—THE TECH

Music Director Frederick Harris Jr. leads the MIT Festival Jazz Ensemble through a night dedicated to performing pieces created by MIT students and alumni Nov 17.

Sec. of Ed. DeVos proposes new college sexual assault policies

Victims' rights groups fear rollback of protections

By Zoe Anderson
ASSOCIATE NEWS EDITOR

Secretary of Education Betsy DeVos proposed new college sexual assault policies on Friday which would increase the rights of those accused of sexual assault and would limit the circumstances surrounding sexual assault in which colleges must act.

DeVos rescinded the Obama administration's 2011 and 2014 Dear Colleague letters, which stipulated how colleges and universities should combat sexual assault, last September. If finalized, after a 60-day public comment period, the proposed policies would have the effect of law, replacing that earlier guidance.

Accused may be guaranteed right to cross-examine accuser

The proposed policies would guarantee students accused of sexual assault the right to cross-examine their accuser in a live hearing through a third party, such as a lawyer. The parties would be allowed to remain in separate rooms.

Cross-examination rights for the accused would mark a change from the guidelines in the Obama administration's 2011 Dear Colleague letter, in which the Office of Civil Rights, a subagency of the Department of Education, strongly discouraged cross-examination because of its potential to re-traumatize victims.

End Rape on Campus Interim Executive Director Jess Davidson told *The Washington Post* that cross-examination would discourage victims from coming forward.

Due-process groups support cross-examination as the most accurate means of establishing the facts of the incident, according to The Washington Post.

Victims' rights groups and Obama administration officials have denounced the proposed policies as a dangerous rollback of regulations designed to fight sexual assault on college campuses, The New York Timesreported.

Standards of certainty may increase

The proposed policies also allow schools to require more certainty of a sexual assault prior to suspending or expelling a student. Schools would be able to use the standard of "clear and convincing evidence" as opposed to only "preponderance of the evidence." MIT currently uses the latter standard, which simply means "more likely than not," Sarah Rankin, MIT's Title IX coordinator, said in an interview with *The Tech* last May.

Requirements for colleges to investigate incidents may be loosened

The proposed policies limit the circumstances in which colleges would have to take action to only when an incident is reported to

DeVos, Page 2

FEATURE

MIT's budget explained: how the Institute spends $3.6 billion

A look at the budgetary process, history, and current trends

By Avichal Goel

The budgetary process involves allocating billions of dollars in revenue to various operations at MIT, including instruction, research, and administration. The process for this year started in the early fall and will conclude in the winter when final budgets are approved for the 2019–2020 academic year. Determining how MIT's money is spent requires the combined effort and careful decisions of everyone involved.

In 2018, MIT's operating revenue totaled over $3.62 billion, with large portions coming from research, investments, and tuition. MIT's operating expenses of over $3.57 billion used 98.6 percent of the revenue, up from 97.5 percent in 2017 and 94.1 percent on average over the past 10 years.

Balancing needs in the budgetary process

In order to decide each year's budget allocations, the Office of the Vice President for Finance (VPF) looks at projected expenses, including salaries and financial aid, and compares this to revenue estimates, incorporating factors such as the growth of the endowment.

In an interview with *The Tech,* Provost Martin Schmidt PhD '88 explained that in years when the projected revenue exceeds projected expenses, the Institute has the ability to make new investments and must determine how to spend this extra money. The process to determine this follows a hierarchical structure: each department prioritizes its own needs and then talks to their Dean — for example, each department in the School of Engineering talks to the Dean of Engineering — and each of the deans meet with the provost, who must balance priorities across each of the schools. Finally, the provost talks to the chancellor to incorporate other pressing concerns, which may include matters like the need for more competitive financial aid packages.

In addition to receiving additional budget allocations, individual departments can pursue other methods to acquire funds. In particular, they can write grant proposals to foundations and reach out to friends of the department for donations. In 2018, gifts and bequests for current use accounted for $220 million in revenue, compared to over $1.7 billion in total research revenue. Finally, in the case where departments are unable to secure additional funds, they can choose to reallocate by moving resources from a less important area to the one currently being considered.

Figuring out how to allocate funds and balance needs can be difficult, and there are times when the decision isn't clear-cut. Schmidt said, "You have to have honest conversations with everybody and really try to get a sense of how painful [it is] … sometimes what we try and do, to see how big of a deal is this for you, is we cost you. If you're willing to take what is your discretionary funds and put it on the table, then I'll do some matching, because I know it's important to you." In such cases, the result can be a combination of department funds and additional support from the budget.

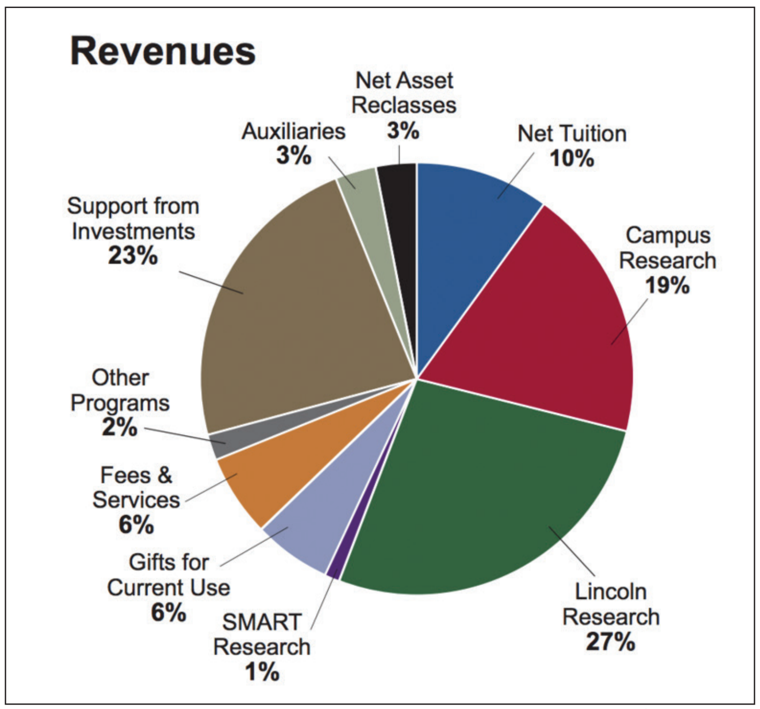
When looking at the process as a whole, the hardest decisions to make are the ones that involve trade-offs. Schmidt explained, "We have very diverse needs, so [we] have to figure out [how to] decide what's more important: a microscope in a chemistry lab or another counselor in S^3."

Revenue shifts and the growth of the endowment

As a percentage of the total campus revenue, contributions from various sources have remained about the same; however, the percentage of research revenue has declined and support from investments has increased.

The decline in research revenue can be explained, in part, by the change in composition between federal and non-federal funding. According to Schmidt, "The percent of [research revenue] that is federal research was quite large, and it's been slowly declining … the percentage of [research revenue] that is non-federal, either foundations, foreign governments, or industry, has grown." On a broader scale, the U.S. federal

Budget, Page 2



MIT TREASURER'S REPORT 2018

In 2018, MIT's operating revenues totaled over $3.62 billion, with large portions coming from research, investments, and tuition.

IN SHORT

The **deadline to drop a full-term subject** is tomorrow. Changes from credit to listener must also be made by this date. Talk to your advisor if you plan to drop a class, and remember to submit the form again after their approval. Half-term subjects offered in the second half of the semester may be dropped through Nov. 28.

There are no classes on Thursday, Nov. 22 or Friday, Nov. 23 due to the **Thanksgiving vacation.** Happy Turkey Day!

Spring housing forms are due Nov. 25 and are available at myhousing.mit.edu.

PE registration for IAP opens 8 a.m. Wednesday, Nov. 28. Sign-ups are first-come, first-served.

Interested in **joining** *The Tech*? Stop by for dinner Sunday at 6 p.m. or email *join@tech.mit.edu.*

Send news and tips to *news@tech.mit.edu.*

IMPROVING INFRASTRUCTURE
The Urban Risk Lab hopes to increase disaster preparedness. **SCIENCE, p. 11**

CRIMES OF POOR WRITING
Rowling disappoints in latest franchise installment. **ARTS, p. 6**

LEADING THE FUTURE OF AI?
College of Computing needs to consider ethics. **OPINION, p. 5**

NIGHTMARKET
Annual festival celebrates Asian cultures. **PHOTOS, p. 12**

SCHOENBERG IN HOLLYWOOD
New opera by Media Lab composer premieres. **ARTS, p. 8**

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WEATHER

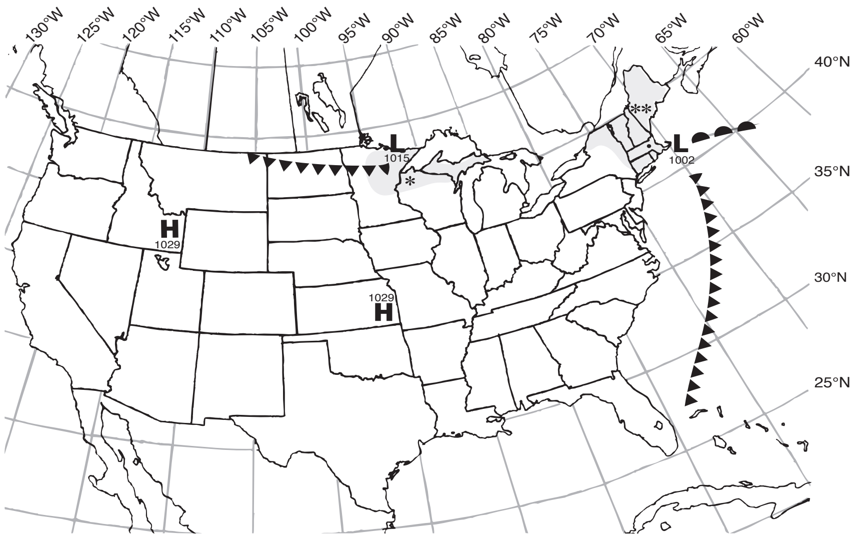
Frigid Thanksgiving

By Val Shum

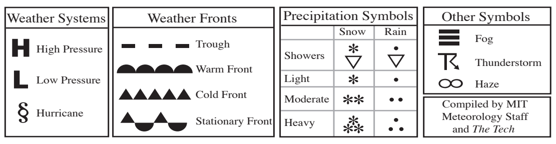
This upcoming Thanksgiving break looks to be a frigid one. Temperatures will drop to near record cold values in the teens and twenties °F Wednesday and Thursday before warming back up on Friday into the 30s. With the exception of today, which features rain and snow across New England as a low pressure system races through, the weather will be favorable for Thanksgiving travel as high pressure dominates US weather in the latter half of the week. The cold temperatures will not be any fun for Black Friday shoppers, though! Bundle up and enjoy a relatively tranquil Thanksgiving!

Extended Forecast

Today: A chance of showers. High around 40 °F (4 °C). Winds NE at around 10 mph.
Tonight: Partly cloudy. Low of about 31 °F (-1 °C). Winds NW between 5–10 mph.
Tomorrow: Partly cloudy. High around 38 °F (3 °C) with a low of 13 °F (-11 °C). Winds W at about 10 mph.
Thursday: Sunny. High of 20 °F (-7 °C) and low of 14 °F (-10 °C).
Friday: Sunny. High of 31 °F (-1 °C).



Situation for Noon Eastern Time, Tuesday, November 20, 2018



Compiled by MIT Meteorology Staff and *The Tech*

Junot Díaz to stay as Pulitzer board member

On Friday, the Pulitzer Prize board followed MIT's footsteps in announcing it found no evidence for the removal of Junot Díaz, MIT professor and 2008 Pulitzer Prize winner, after an investigation of his behavior toward female students and staff. The allegations began in May when novelist Zinzi Clemmons accused Díaz of cornering and "forcibly" kissing her about six years ago.

The board's five-month long investigation included interviews with dozens of witnesses and inspection of documents. *The Boston Review* also found no grounds to remove Díaz as its fiction editor after examining the allegations. MIT conducted its own investigation in May and June with members of the campus community by reaching out to his students and giving them avenues to seek help or report unwanted behavior. In addition, MIT talked to Díaz and his colleagues and ultimately found no reason to restrict Díaz in his capacity as a faculty member. He currently teaches CMS.307 Critical Worldbuilding.

—Soomin Chun

MIT increased spending for building repairs

Budget, from Page 1

budget for research and development has declined from over 1.2 percent of GDP in 1976 to under 0.8 percent in recent years.

On the other hand, the increase in support from investments can be attributed to the significant growth of the endowment. As of 2018, MIT has the fifth largest university endowment in the U.S. at $16.4 billion. A large portion of the increase in endowment net assets comes from appreciation, which totalled just over $2 billion this year. Schmidt explained, "[MIT] moved into a different financial peer group than [it was in] back in 1981 … This peer group is Harvard, Yale, Princeton, Stanford, [as compared to] RPI, Lehigh, [and] Carnegie-Mellon."

Deferred maintenance and the budgetary focus

During the past decade, there have been a few particular areas of focus in terms of the budget and investments. Schmidt described, "In 2008, we went through a comprehensive review of the condition of the physical campus … we went across the campus into every building and tried to figure out, 'if I had to fix all those things … how much money would that cost?'" The total cost to fix these problems — including broken elevators and outdated electrical systems — came to a grand total of over $2 billion, in comparison to the $20 million per year that was being allocated at the time. Schmidt continued, "in 2010, we made a major commitment to the the Institute to address the deferred maintenance, and so basically, we took what was $20 million a year of spending on campus and we increased it to $200 million a year, so over a 10-year period, we will spend $2 billion."

The recent budgetary focus has also included significant increases to student financial aid, student support, and research funding. For example, the focus on financial aid has allowed the average tuition for undergraduates receiving financial aid to be $23,539 for the 2018–2019 school year, with over 30 percent of all undergraduate students attending tuition-free.

New policies would narrow definition of sexual assault

DeVos, from Page 1

"an official with authority to take corrective action," according to The Washington Post.

Colleges would only be required to investigate incidents occurring on their campuses or at their programs under the proposed policies. Critics point out that many incidents occur at apartments right off of college campuses and that the proposed policies do not require these to be investigated, according to The Chronicle of Higher Education. This is a change from the Obama-era guidelines.

MIT's Title IX Office is evaluating the proposal's potential impact on MIT's sexual assault policies and currently does not have an update on how it will respond. Therefore, the office was unable to respond to *The Tech's* request for comment, Title IX Office Coordinator Sarah Rankin wrote in an email to *The Tech* yesterday.

MIT offers both confidential and private resources to students who have been victims of sexual assault. Confidential resources cannot report an incident to the Title IX Office and include MIT Mental Health and Counseling, MIT Medical, and Violence Prevention and Response.

Private resources are required to report an incident of sexual misconduct to the Title IX Office for campus safety reasons, though they must consider students' wishes, according to the Title IX Office's websites on confidential and private resources.

Private resources include S3, residential life staff, the Committee on Discipline, and staff designated as "responsible employees." "Responsible employee" is a Title IX term designating a person as being required to report an incident of a student experiencing sexual misconduct to the Title IX office, according to the Title IX Office's website. At MIT, all staff who are not designated as confidential resources are responsible employees.

Definition of sexual assault may narrow

The proposed policies use a narrower definition of sexual assault than the Obama administration's guidelines did: "unwelcome conduct on the basis of sex that is so severe, pervasive, and objectively offensive that it effectively denies a person equal access to the recipient's education program or activity."

The Obama administration's 2011 Dear Colleague letter defined sexual harassment to be "unwelcome conduct of a sexual nature." It included "unwelcome sexual advances, requests for sexual favors, and other verbal, nonverbal, or physical conduct of a sexual nature."

Sexual assault on college campuses can be handled by both universities and the criminal justice system. If the victim does not report the assault to the police, the college or university will handle the sexual assault; necessarily, they will proceed differently than courts do. Colleges and universities must follow Title IX, part of a 1972 act requiring institutions that receive federal funding to ensure that no one is discriminated against in accessing their programs on the basis of sex.

"When a student sexually harasses another student, the harassing conduct creates a hostile environment if the conduct is sufficiently serious that it interferes with or limits a student's ability to participate in or benefit from the school's program," the Obama-era Department of Education wrote in the 2011 Dear Colleague letter.

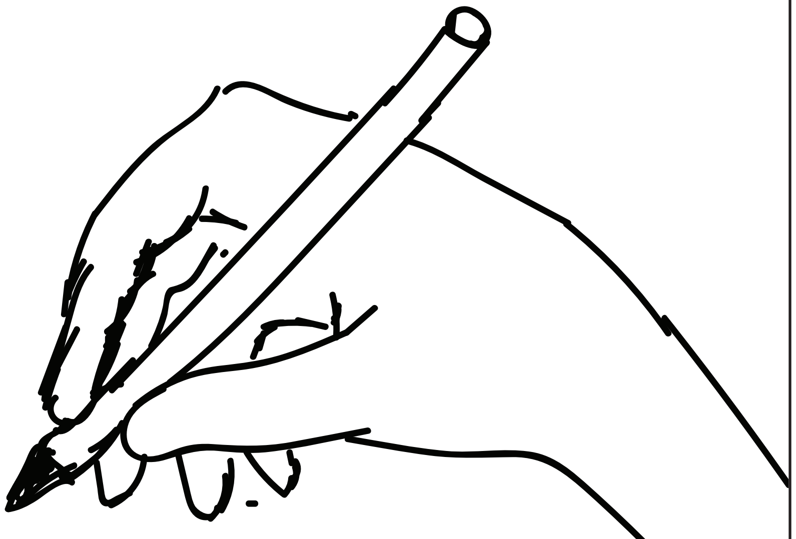
Sexual assault is a crime, but colleges and universities handle civil, not criminal charges. Accused students are found "responsible" or "not responsible," as opposed to "guilty" or "not guilty." Being found "responsible" of sexual assault on a college campus and therefore of having violated Title IX is not a criminal charge and cannot result in criminal punitive measures, but does result in suspension or expulsion from college.

Because colleges and universities are not courts, they are not required to follow criminal prosecution rules. Some due process advocacy groups, such as Families Advocating for Campus Equality, say that defendants are denied due process in college sexual assault investigations under the Obama-era guidelines.

One in five female undergraduate students are sexually assaulted in college, according to End Rape on Campus.

Are you handy with a pen?

join @ tech.mit.edu



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NEWS

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Solution to Turkey

from page 10

3	5	6	1	2	4
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Solution to Stuffing

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Solution to Composer

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MIT CHINA FORUM

MIT'S STRATEGY ON CHINA

RICHARD LESTER is Associate Provost at MIT, where he oversees the Institute's international activities. Dr. Lester is the Japan Steel Industry Professor of Nuclear Science and Engineering, and the founder and chair of the MIT Industrial Performance Center.

DAVID GOLDSTON is the director of MIT's Washington Office. He served as chief of staff of the House Science Committee from 2001-2006 and has been a columnist for *Nature.*

MODERATOR: YASHENG HUANG is Professor of political economy and international management and holds International Program Professorship in Chinese Economy and Business at Sloan School of Management.

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1-2:30PM | WONG AUDITORIUM

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LETTER TO THE EDITOR

Response to "Grad students suffer from lagging support"

Dear Tech Editors:

We are writing in response to the opinion guest column by Mark Goldman, "Grad students suffer from lagging support" (*The Tech*, Nov 1, 2018). We are planning to meet with Mark directly to discuss the specific issues he raised and are also committed to offering more opportunities for students to engage with us on those or, in fact, any and all topics.

In the meantime, we wanted to use this opportunity to provide a brief update on some of the ways we, along with our colleagues in the Division of Student Life, are enhancing our support for MIT's graduate students. Informed by data and outreach to stakeholders, a series of initiatives is already in progress.

Highlights include improvements in onboarding new students, such as Atlas for Grads; the release in mid-August of the final report of the Graduate Student Housing Working Group; the launch of a new Parental Leave policy on Sept. 1 to help students better balance childcare with study and research; and a growing effort to bolster professional development and career exploration opportunities. A new graduate family support working group will be soon underway to broadly understand the environment for graduate student families at MIT and options for ensuring they are appropriately supported.

OGE has also taken steps to increase its graduate student support network with the appointment of Assistant Dean Suraiya Baluch, expanded its financial literacy programming, and augmented diversity recruitment efforts. Further, as graduate students spend much of their time in labs and departments, we are collaborating with MindHandHeart on the Department Support Project, designed to make academic environments more welcoming. Relatedly, all student facing staff in OVC were recently trained to better identify and support students with mental health and personal support needs. Finally, as graduate students and their families need more opportunities to hear from one another and from others, we are happy that the graduate admissions blog is going strong, MIT media channels are featuring more stories about graduate students and alumni, and more events, like Valerie Young's talk on Imposter Syndrome, are graduate student specific.

We are pleased by our very meaningful collaboration with graduate student groups and others on these topics. However, as Mark's cogent letter pointed out, we have much more to do. The passion and commitment he feels towards his peers is what motivates us to keep pushing forward. In that spirit, we invite all graduate students to join us in creating an even better MIT.

Sincerely,
Ian Waitz, Vice Chancellor for Undergraduate and Graduate Education, and Blanche Staton, Senior Associate Dean for Graduate Education, Director of the Office of Graduate Education

OPINION POLICY

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Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

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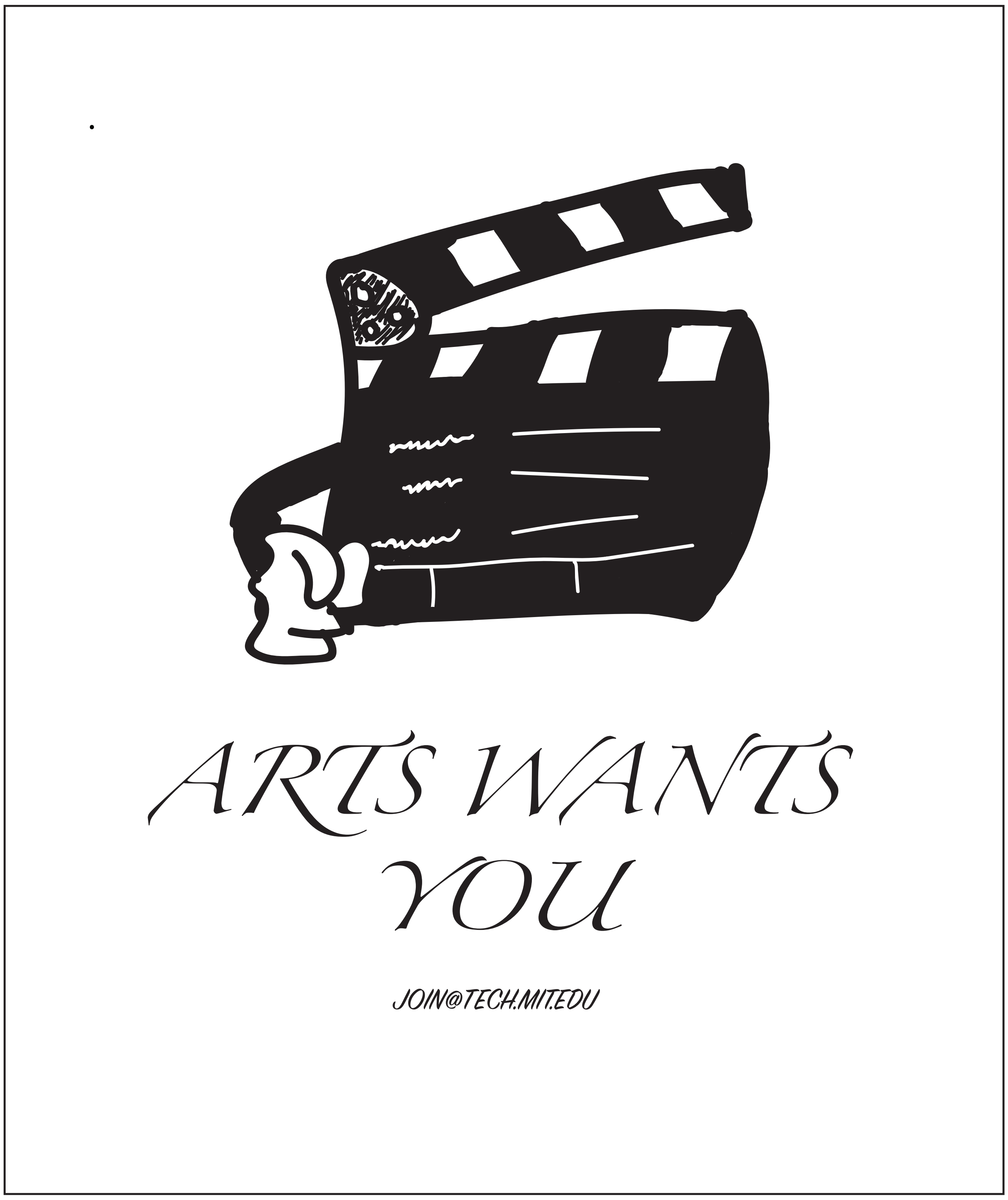

GUEST COLUMN

What the College of Computing can do for society

As a premier tech school, MIT has the responsibility to consider ethics as related to AI

By Soomin Chun

The new $1 billion Schwarzman College of Computing is reshaping MIT as a connective college that will connect AI studies to all disciplines. According to MIT News, this commitment hopes to "address the global opportunities and challenges presented by the prevalence of computing and artificial intelligence (AI)."

For non-Course 6 students, you might be rolling your eyes at what seems like yet another amalgam of buzzwords designed to lure the most drooling tech scouters to fresh, computational Course 6 brains. But buzzwords have become buzzwords for a reason — because they have potential for explosive growth, and it only makes sense to tap in for industrial and informational gain.

It's no secret computer science dominates much of MIT. Around 40 percent of MIT undergraduates major in CS or a joint program combining CS with another field, and the largest research lab at MIT is the Computer Science & Artificial Intelligence Lab (CSAIL). Ten out of the 67 Electrical Engineering and Computer Science (EECS) faculty have received the Turing Award, computing's highest honor.

Because EECS holds such a large presence at MIT, there is definitely justification for a College of Computing to better manage the overflowing major. Although this college is more "interdisciplinary" than MIT's other schools, it still allows room for more distinction and categorization of majors and classes. Students can either think of this change positively as appropriately banking on the global trend toward machine learning (ML) and AI, or at the very least begrudgingly accept the change as a necessary. Even in non-CS fields, knowledge of CS, especially ML, can be extremely useful and even the distinguishing factor amongst a sea of qualified applicants. As the college aims to be "an interdisciplinary hub for work in CS, AI, data science, and related fields," according to MIT News, other majors can definitely also take advantage of the increasing CS resources.

Although a huge change to MIT, the idea of a "college of computing" is not novel or unique. Carnegie Mellon University (CMU), one of the top schools for CS, has had a School of Computer Science (SCS) since 1988. CMU's SCS now has departments in Computational Biology, Computer Science, Human-Computer Interaction, Software Research, Language Technologies, Machine Learning, and Robotics. Similarly, instead of focusing too much on AI, the CoC might serve MIT better if we move toward SCS's model of branching out.

> **Students can either think of this change positively as appropriately banking on the global trend toward machine learning and AI, or at the very least begrudgingly accept the change as a necessary.**

Although students might be initially attracted to this college for the buzzwords and glamor, hopefully they will stay for the interdisciplinary programs and ethics. This new college serves not just to further feed the behemoth that is Course 6, but also gives students in other majors more flexibility in their endeavors. ML can be used to make predictions which might sway millions of dollars in the finance industry, save thousands from an impending natural disaster, or model the expansion of a city, not to mention help personalize services and improve data security. The focus on CS might shift a couple students from wet lab work to more computational studies, but the absence of physical, hands-on research does not equal apathy or losing passion for the field.

The College of Computing hopes to create more joint majors with Course 6 that ideally integrate CS and other majors in a balanced, interwoven fashion, unlike some of the current 6-X joint majors that students complain feel haphazardly stuck together. A common view is that the required classes never end up completely integrating to create a whole, and thus students feel lacking in both areas compared to students taking either normal major. Through the new College of Computing, hopefully the 6-X majors will be better organized and structured so that classes are better integrated and are ordered in a coherent sequence. Often, students appreciate the skill set coding provides them in the workforce, but knowing how to fully apply it to a certain major can be invaluable.

Perhaps more important than the practical benefits of the new college are the impacts it will have on society. President L. Rafael Reif acknowledges that "society is uneasy about technology" and thus, "technological advancements must go hand in hand with the development of ethical guidelines that anticipate the risks of such enormously powerful innovations." With the era of AI, science fiction movies in which the machines take over are becoming less of entertaining horror and more realistic cautionary reminders to keep technology in check.

> **Perhaps more important than the practical benefits of the new college are the impacts it will have on society.**

Groundbreaking events such as AlphaGo vs. Lee Sedol, in which Google DeepMind's program AlphaGo won four out of five Go games against 18-time world champion Lee Sedol, remind us technology has far surpassed humans already in certain cognitive areas. In fact, distinguishing humans and computers is becoming harder and harder. With big data comes big responsibility. The capability to analyze huge data sets and create predictive neural networks is definitely a power that carries responsibility, and with MIT's mission as a top tier tech school to educate students in STEM to "best serve the nation and the world in the 21st century," MIT has a responsibility to act as ethical pathblazers of the world of computers — to use technology for the common good. Although not much is concrete about the CoC, Reif and Schwarzman alike have reaffirmed the importance of advancing AI and policies around its ethics hand in hand because society is uneasy about AI, and that is a clear sign be careful with the technology. For how useful ML and AI can be in making predictions, we don't really know how far and fast the field will expand over the next couple of years, and it is this uncertainty that causes people stress. MIT has a responsibility to bridge the gap of this uncertainty to make sure human good is considered along with technological progress.

History holds many painful memories of when science ended up doing more harm than good, such as the invention of dynamite. The significant power of AI comes with the potential to do much harm, from mass data breaches to controlling the machines we use on a day-to-day basis. To prevent this, creating a separate College of Computing allows MIT to devote necessary attention to thoroughly researching the moral implications of AI and fostering a healthy environment for further research, and the college plans to do this by bringing together researchers from a wide range of MIT departments.

Ultimately, a university aims to equip students with the skill sets and mentalities that allow them to be the leaders of the new world — currently one that is discovering the power of AI. If students are better versed in the world's newest dynamic changes and thus can better serve society, MIT is doing its job.

Soomin Chun is a member of the MIT Class of 2022.

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MOVIE REVIEW

Ralph memes the Internet

Giant ad for the Internet meets toxic friendship

By Alisa Hathaway and Kathryn Tso

Ralph Breaks the Internet is the slightly-anticipated sequel to the well-received *Wreck-It Ralph*, originally released in 2012. The story picks up six years after the first movie, and Ralph (John C. Reilly) and Vanellope (Sarah Silverman) have had the exact same routine every day. So, when Vanellope expresses boredom with her life, Ralph immediately tries "fixing" it. But surprise! He actually ends up wrecking her game, leading to the rest of the plot. The two enter the Internet in hopes of finding a game part that would fix Vanellope's game, but what they actually find is so much more.

The beginning of the movie started off pretty slowly, providing a long-winded recap of the first *Wreck-It Ralph*. However, we didn't think it was a very necessary or interesting introduction, and we thought diving straight into the new movie plot would have been more entertaining. About a third of the way through the movie, the movie picked up pace and became funnier.

★★★★☆

Ralph Breaks the Internet

Directed by Rich Moore & Phil Johnston

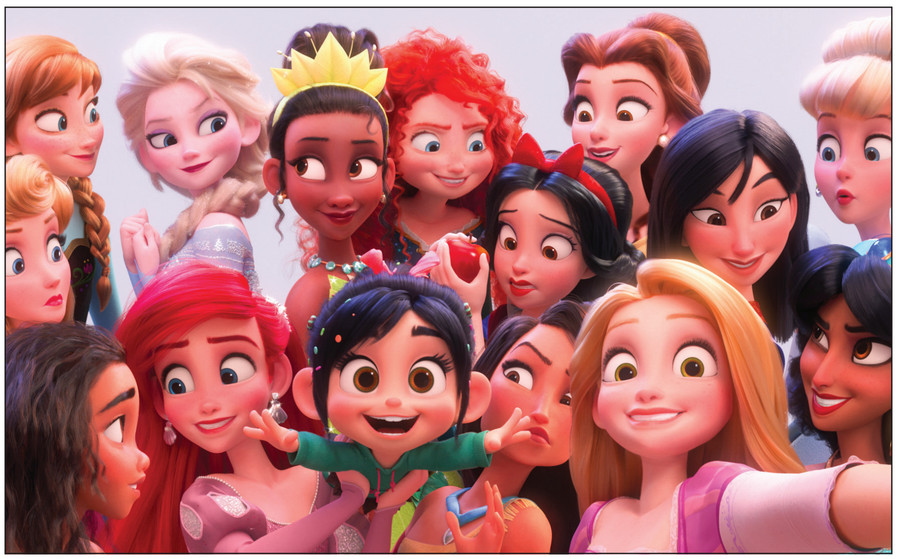
Screenplay by Phil Johnston & Pamela Ribon

Starring Sarah Silverman, John C. Reilly, Gal Gadot, Taraji P. Henson

Rated PG, Now Playing

Before walking in, we initially thought this would just be a better version of *The Emoji Movie*. Although that's not actually hard, the Internet is a tricky thing to portray accurately and entertainingly in a film. Part of the plot takes place in Oh My Disney (Disney's version of Buzzfeed), which felt a little like a huge Disney advertisement in a Disney movie. But for Disney fans, it was still definitely exciting to see some of our favorite characters interact on screen.

The rest of the movie takes place at a company called BuzzTube (real creative, we know), which did a decent job of showing the goods and bads of the Internet. Ralph essentially becomes a YouTuber to make money to buy the game part. To Disney's credit, it got a lot of dumb Internet trends right, like Bob Ross tutorials and screaming goats. Ralph immediately sees the benefits of going viral and goes through every single trend in a day to the delight of both the consumers and the head of BuzzTube, Yes! (Taraji P. Henson). It was a little scary to see how many videos he had to make to still be relevant, but it reflected the sad truth of the Internet today. There was also a brief scene in which Ralph explores the comment section of one of his videos and learns that people can be cruel online in a different way than to your face. There could have been more development here on the downsides of the Internet, but the plot quickly barreled on.



COURTESY OF WALT DISNEY STUDIOS

Vanellope von Schweetz (Sarah Silverman) poses for a selfie with various Disney princesses in the film *Ralph Breaks the Internet*.

Ralph Breaks the Internet isn't necessarily the most original film in terms of overarching theme, but it achieves its message well. We found it particularly interesting because the first film already addressed both Ralph's and Vanellope's initial self-esteem issues. Ralph discovers he can be a hero, and Vanellope learns she's not an unimportant glitch, but actually the princess of an entire kingdom. So in this film they chose to address the actual friendship between the two.

Ralph and Vanellope do not have a perfect friendship, but that's what made the movie even better. Vanellope tries too hard to protect Ralph's feelings, and Ralph can't get over the idea that he is not Vanellope's only friend. However, Ralph and Vanellope open their eyes to the flaws of their personalities, making their friendship stronger. Is this the best plot? No. But it addresses a real issue of toxic friendship and the idea of direct communication to improve on a "strong" relationship.

We loved the ending of this movie and how it wasn't "clichéd" and "happily ever after," but well-thought out and realistic. It really spoke to us because of the idea of long-distance friendships, especially since both of us just graduated from high school and are still getting used to not seeing our friends back home every day. One quote that stood out to us was: "Best friends don't have to have the same dreams."

Overall, Disney has definitely released worse sequels. As *Wreck-It Ralph* is one of our favorite Disney films, we were really hoping the second would be just as good. And, for the most part, we weren't disappointed.

MOVIE REVIEW

'You never met a monster you couldn't love'

Rowling's writing falls short with plot holes and discontinuities galore

By Nathan Liang
ASSOCIATE ARTS EDITOR

Disclaimer: This review contains a few spoilers with regards to *Fantastic Beasts: The Crimes of Grindelwald*.

Fantastic Beasts: The Crimes of Grindelwald picks up a few months after *Fantastic Beasts and Where to Find Them*, with Newt Scamander (Eddie Redmayne) and company chasing after Grindelwald's (Johnny Depp) and Credence's (Ezra Miller) trails. The overall tone of this movie is much darker than the first, though there are still plenty of scenes with humor and charm that give audiences a breather from worrying about the impending doom by Grindelwald. Since its release, the film has received a lot of flak, and with good reason.

To start, I'm disappointed that, aside from the major plot twists, the trailers for *Grindelwald* basically reveal the story of the film. Dumbledore sends Newt to find Grindelwald for him because he "can't move against him." Tina Goldstein (Katherine Waterston) is now an Auror and is also working to track down Grindelwald. Eventually, Grindelwald gathers enough support for his cause to call a rally while plotting to recruit Credence and almost killing Newt. There are flashbacks to Newt's years as a student in Hogwarts to provide appropriate backstory. For some reason, Nagini (Claudia Kim) is a human rather than solely being Voldemort's loyal pet snake. The film also hints at the canon of Dumbledore and Grindelwald's relationship via the trailer, spoiling the Mirror of Erised scene (though to what extent is still questionable). Finally, alchemist Nicolas Flamel (Brontis Jodorowsky) is also in the movie for some reason.

★★★☆☆

Fantastic Beasts: The Crimes of Grindelwald

Directed by David Yates

Screenplay by J.K. Rowling

Starring Eddie Redmayne, Zoë Kravitz, Jude Law, Johnny Depp, Ezra Miller

Rated PG-13, Now Playing

Despite the spoiler-prone nature of the trailers, the movie itself still has plenty to unpack and criticize. For one, there are too many discontinuities, plot holes, and confusions brought up from the perspective of a Harry Potter fan. McGonagall (Fiona Glascott) is in the movie despite the fact that she's not supposed to be born until 1935. This movie takes place in 1927. Dumbledore is a Defence Against the Dark Arts professor despite the preconception that he was always the Transfigurations professor prior to becoming headmaster. Jacob (Dan Fogler) somehow remembers everything despite being very clearly obliviated at the end of the previous movie. And speaking of Jacob's memories returning, Queenie's (Alison Sudol) quest for love seems uncharacteristic from her performance in the first film. Overall, when one examines the movie in terms of the established timelines, there are definitely details that feel forced or misplaced.

JAAP BUITENDIJK

Nagini (Claudia Kim) helps Credence Barebone (Ezra Miller) search for his mother.

However, despite all the downfalls of the writing and story, the movie is an enjoyable experience. If you are not an avid fan of Harry Potter and go merely to be entertained, you will be entertained. The realism of the CGI is amazing. All the creatures that help Newt never look out of place. Personally, one of my favorite beast scenes features Newt's baby nifflers causing mischief in his home.

Worldbuilding is definitely something J.K. Rowling has always been good at, and it is something that helps this movie a great deal. In the first *Fantastic Beasts* movie, audiences are only allowed a small glimpse into the world at large via its setting in New York. No-Majs (aka Muggles) have a general dislike of wizards and witches, if they even believe in their existence. Conversely, practitioners of magic are not allowed to engage in relationships with No-Majs. The pursuit of learning more about Newt Scamander's creatures is a major plot-driving point, helping audiences develop a love for a plethora of magical creatures akin to Hagrid's. Then there's Grindelwald, who only feels like a background worry until his reveal at the very end of the first movie.

With *The Crimes of Grindelwald*, we are taken back and forth between Hogwarts and Paris, France. The politics of the current wizarding world are more prominently displayed: the Ministry of Magic strictly prohibits wizards and Muggles from forming relationships; Grindelwald's increasing following is telling of his increasing power and influence in the magical world; Dumbledore, as usual, is implicated as a suspicious figure in the major conflicts at hand; Credence, as a powerful obscurial, is a dangerous wild card; and there is another possible prophecy provided by The Predictions of Tycho Dodonus.

As a viewer, you gain a deeper understanding of the greater stakes and motivations of the times. The grandeur of Grindelwald's scheme and the importance of Credence are clearer, but the confusion caused by plot holes and unnecessary inclusion of certain characters leave much to be desired. *The Crimes of Grindelwald* simply does not fit smoothly into the canon of the Harry Potter universe. Even worse, the movie feels like a two-hour long spectacle of exposition, and you just wish the next three movies could come out already so you know how this whole messy arc ends.

MOVIE REVIEW

No longer erased

An affecting telling of a true experience with conversion therapy

★★★★☆

Boy Erased

Directed by Joel Edgerton

Screenplay by Joel Edgerton

Based on the book by Garrard Conley

Starring Lucas Hedges, Nicole Kidman, Russell Crowe, Joel Edgerton

Rated R, Now Playing

By Lulu Tian

Based on Garrard Conley's memoir *Boy Erased*, the movie follows the life of Jared (Lucas Hedges), a college student and son of a Baptist priest, as he wrestles with the conflicts between his sexuality, religion, and family. After Jared's homosexuality is exposed to his religious parents, they send him to a conversion therapy camp called Love In Action, hoping that he will change. The story centers around Jared's life, weaving between his journey with conversion therapy and flashbacks of his prior formative experiences.

These flashbacks can be confusing, especially at the beginning, but they prove essential to controlling the flow of the movie. The film opens to Love in Action — we see the camp through the eyes of Jared, an optimistic teenager seemingly willing to change himself for the sake of his family, with naive hope that conversion therapy might work. The ridiculousness of the lessons taught by the leader of the camp, Mr. Sykes (Joel Edgerton), becomes almost humorous, especially as we see Jared laughing at the distasteful jokes and obediently listening. Accompanied by glimpses into Jared's past picturesque family life, the beginning of the film seems light in a way that one would not expect, since it aims to tackle the difficult issue of conversion therapy.

However, there is an overall sense that the movie's tone will take a turn. The shots are colored with cool tones at the beginning and continue throughout the movie. The sparse usage of music creates moments that are quiet and bring focus to the actions and dialogues between characters. The overall feeling the audience receives is calmness, but to the point where it is unsettling, especially as we begin to see how unreasonable the conversion therapy camp is.

The woven moments at Love in Action and Jared's past memories prove most powerful with the insertion of the scene where Jared is raped in college, which transforms the tone of the film into something much darker and more serious. When Jared speaks to his rapist after the scene, he seems shockingly calm, but Hedges's performance allows Jared's inner anger, sadness, and fear to show without verbal expression. Throughout the movie, Hedges creates subtle emotional buildups that accumulate into bursts of anger, most notably towards his parents when they hear about his homosexuality, and towards Mr. Sykes later on in the film.

The exchanges between Jared and his parents (Nicole Kidman and Russell Crowe) reveal their closeness even when they are not in agreement about his sexuality. Although the film could have provided more insight into the process Jared's parents go through to find acceptance, the characters are successful in portraying the complexities of love and family. Through Kidman and Crowe's acting, we feel the pain of Jared's mother and father, in a way that seems unselfish and shows that they are genuinely confused about what the right course of action is.

The film perhaps spends less time discussing Jared's family life because the characters at Love in Action are also complex and provide further insight into the wide scope of perspectives and experiences with sexuality and religion. Jared meets Gary, who has learned to "play the part," and Cam, who struggles with conversion therapy as well as family issues. Another peer appears to be brainwashed by the idea that conversion therapy will work for him. Each of these supporting roles gets spotlighted and even in these short moments, they create lasting impressions, which is a true testament to the directing of this film and its organic incorporation of such diversity.

The film is excellent at creating intensity because the shots are often simple and clean while the sound is limited to the dialogue, effectively conveying the characters' raw emotions. Especially impactful is a moment when, pressured by Sykes to express hatred for his father, Jared responds, "Why do I have to be angry?" This simple but explosive question captures the film's potent message — that mutual love and acceptance are possible even when there is not a perfect understanding between two people. The end of the film cuts to four years after Jared has left Love in Action, and although he and his father still seem stiff and uncomfortable with each other, there is a sense of hope that the father is ready to begin to accept his son.

Boy Erased is filled with passionate performances by the actors, is beautifully shot, and is genuinely thought-provoking. This film is successful in starting a dialogue surrounding conversion therapy, parenting, and acceptance. Without preaching about what is right or wrong, the movie exposes how horrifying conversion therapy can be and its tolls on family and beliefs. That being said, the movie spends so much time exploring characters' conflicts that the condemnation of conversion therapy is not as highlighted as it could be. The film addresses how difficult but worthwhile it is to love, whether it concerns romance, family, or even oneself. That is enough reason to go see this film. Attempting to understand different perspectives and lives is the first step to acceptance, and *Boy Erased* helps us take that action.

COURTESY OF FOCUS FEATURES

Theodore Pellerin and Lucas Hedges star as Xavier and Jared in *Boy Erased.*

MOVIE REVIEW

Teen Flynn McGarry cooks smoked sauces, elegant emulsions, and fragrant foams for dinner

A documentary that poignantly chronicles a top chef's transition from boyhood to manhood

★★★★☆

Chef Flynn

Directed by Cameron Yates

Starring Flynn McGarry, Meg McGarry

Not Rated, Now Playing

By Alana Chandler
STAFF WRITER

The foods one associates with a kid's kitchen might be mac and cheese or Nestle chocolate chip cookies. Sinks and crumb-covered floors reeking of minimum effort and maximum messiness. Yet Flynn McGarry is anything but this. His culinary masterpieces are modeled after world-class fine-dining spots like Alinea and Eleven Madison Park. From a beet Wellington dish paired with creamed sorrel and a smoked date to scallops cured in kombu with walnut pesto and wild fennel pollen, his plates are the pinnacle of culinary art.

At the ripe age of 11 and a half, Flynn began hosting a supper club called "Eureka" in his mother's dining room. He enlisted his friends to staff his dinners, but after being invited to appear on the Today Show, star on the cover for the *New York Times*, and cook at pop-up restaurant events with the world's most prestigious chefs, Flynn outgrew the walls of his home.

With the unwavering support of his mother Meg McGarry and a home kitchen stocked with advanced cooking technologies like induction burners and vacuum sealers, it is easy for critics to attribute Flynn's success to superparenting and financial privilege. However, the captivating documentary, entitled *Chef Flynn*, debunks such myths. As a filmmaker, Meg has a tendency to record Flynn at every step of his creative process, such as strolling in the woods to find inspiration for a new dish, hacking at a chicken carcass, and using tweezers to precisely place herbs on a filet of fish. In a charming way, Flynn always shies away from the camera when his mother records him, insisting that there is nothing important to see. Yet such documentation allows the audience to look behind the glamor of fancy sauces and colorful ingredients and into the ubiquitous pressures of his daily life. Between silky shots of foaming soups and curling smoke lies the story of Flynn: a son of two creative professionals, a child of an alcoholic father, a teen schooled at home due to the persistent school bullying, and a young man whose passion for food has pushed him to replace a childhood with 40-hour weeks in the kitchen. Through the chronological montage of home videos depicting a young Flynn carefully charring vegetables with sweat pooling from his brow and late nights in a professional New York kitchen rubbing blisters into his teenage feet as he acts as manager, it is clear that Flynn did not receive his success on a silver platter. Rather, he made the platter himself.

COURTESY OF KINO LORBER

Chef Flynn McGarry prepares an intricate dish on balloons in his home kitchen.

THEATER REVIEW

An American story of resilience and vulnerability, DACAmented

Anner Cividanis provides powerful, uplifting, and heartbreaking writing and performing in his retelling of his story as an undocumented person

By Alia Rizvi

WET: A DACAmented Journey, written and performed by Alex Alpharaoh (who refers to himself as Anner Cividavis in the play), is an emotionally packed, humorous play that weaves in and out of Anner's reenactments, narration, and spoken-word retelling of the struggles in his and his family's life as an undocumented immigrant to the United States.

It is a unique challenge to stage and write dialogue for a one-actor play that will engage an audience, but Anner Cividanis uses his variety of voices, good story pacing, and range of talents in acting, spoken word poetry, and heartfelt monologues to the play's success. The lighting, music, and audio elements of the play make the space seem warm (using gentle blue lighting and mellow hip-hop), harsh (from red beams and screeching noises), or isolating (with spotlights and silence), which helps add a sense of atmosphere that fills in any gaps that a play with a larger cast may have left.

WET: A DACAmented Journey

Written by Alex Alpharaoh

Emerson Paramount Center

Nov. 8–25

The brightest parts of this play are all the vibrant characters Anner brings to life. His vocalization and physicality of each person is genuine and unique, which adds to the audience's immersion. For the people he loves, Anner instills a sense of resilience in their dialogue and actions, and for the people who stood against him, he laces fear-mongering in their writing. Anner switches back and forth between reflections he makes about these moments with them. A scene never feels droning because of this stylistic choice.

The play also gains a sense of rhythm that effectively guides the audience in and out of their emotions of sadness, anger, happiness, anxiety, and relief. To make political statements, Anner will often go into spoken word to passionately explain immigration legislation or racism's effect on him and other people like him. To focus on a certain emotional moment, Anner will break out of the reenactment to describe what he was feeling in the moment, or he'll try to lighten the atmosphere by cracking a joke then transitioning into a happier moment.

Cividanis's parents, to whom he dedicated this play, are from Guatemala. Anner waits until the audience is deeply acquainted with his sense of belonging in the United States, before giving us a scene set in Guatemala or one about his parents' pasts. Some of the most impactful scenes are the ones showing what his mother went through to get to the United States; he rapidly switches between physicalizing her fear and pain and returning to his monologue retelling, escalating the tension and stress of the scene.

COURTESY OF RAY SHAW

Alex Alpharaoh stars in his one-actor play *WET: A DACAmented Journey.*

The message from the story is that no matter what happens, Anner Cividanis and other undocumented people will always be a part of our nation. As Anner says, no matter which policy or leader chooses to label them the "shame of the country" he will always have grown up here, raised a daughter here, spent the last days with his father here, and called this country home. In the eyes of all of us who have sat through, cried, and laughed with him during this performance, he is American.

OPERA REVIEW

Arnold Schoenberg brings his music to Hollywood

Schoenberg explores his Jewish identity, his artistic vision, and music in a blend of film and opera

Schoenberg in Hollywood

Composed by Tod Machover

Libretto by Simon Robson

Emerson Paramount Center

Nov. 14–18

By Ivy Li
ARTS EDITOR

Machover operas tend to be experimental, technology-infused explorations of self; it's no surprise that his dream project of over 20 years, *Schoenberg in Hollywood,* graces the stage with musical pomp, humor, and a stylized interpretation of composer Arnold Schoenberg's (Omar Ebrahim) life. After escaping the horrors of Nazi-occupied Europe where his music was denounced as degenerate, the Jewish composer makes his way to the most glamorous part of America: Hollywood. The opera is bookended by his first and last meetings (of which he only had two) with Hollywood director, Irving Thalberg (Jesse Darden), who asks Schoenberg to compose for his new film. Schoenberg, the stubborn, proud artist, demands to have control of all forms of sound — music, dialogue, sound effects — and while Thalberg is reluctant, Schoenberg ends up with some leverage.

In this opera, Arnold Schoenberg is the writer, composer, and the protagonist of his own story — he writes the music for *Schoenberg in Hollywood* in lieu of writing music for Thalberg. Acting as a director of sorts, Schoenberg asks his students to act out his life. The opera's small but versatile cast of three people brings the story to a surreal experience; the Boy (Jesse Darden) and the Girl (Sara Womble) are Schoenberg's students who play the role of all the different people in Schoenberg's life. Darden and Womble do a commendable job of differentiating their numerous roles, which is not a small feat considering how many aspects of Schoenberg's life we go through.

As these two students play the roles of the different people, the opera cycles through film archetypes and genres like noir detectives, Western cowboys, romantic dramas, and superhero films. Sometimes, the projected films in the back look hokey (Schoenberg pulling his shirt apart to reveal the Superman logo comes to mind) but other times, it is a bizarre yet fascinating experience that opera-lovers, film-lovers, and theater-lovers likely don't expect with this combination of mediums. We have simultaneous acting on stage with pre-recorded short "films" of Schoenberg's life projected at the back of the stage, coupled with us watching Schoenberg watching himself played by his students watching the film projected in the back.

Naturally, the acting, the film, and the singing are coupled with orchestral music. Tod Machover, an MIT Professor from the Media Lab, throws in snippets of Schoenberg's compositions into the music, but the opera's composer takes care to avoid riffing off too much; the music is avant-garde and takes on an assortment of moods to suit each film. We have the amusing scene of Schoenberg singing about the various critics who dislike his music, but there are also the heartbreaking: the romance between Schoenberg and his first wife Mathilde as she lives and dies. Schoenberg begs her to "not leave him with Arnold Schoenberg," because leaving him to live with himself, his mind whirling through too many thoughts and fears, is something he hasn't learned to cope with yet. She does die in the end, and Schoenberg moves on until his second wife, Gertrud.

COURTESY OF LISA VOLL PHOTOGRAPHY

As Arnold Schoenberg (Omar Ebrahim) looks on during a music lesson, his music students (Sarah Womble and Jesse Darden) break into a fanciful dance in *Schoenberg in Hollywood.*

But we also realize the obvious: Thalberg doesn't want to lose control of his film, so for Schoenberg, it's his art and his memories that Schoenberg has most control of. Librettist Simon Robson takes on Schoenberg's biography with a bit of artistic liberty, pulling the emotional turmoil of identity to the forefront. Schoenberg became Lutheran before returning to his Jewish roots later in his life, but it's no surprise that when his music is denounced — Schoenberg's music was atonal and unusual during a time when harmonies are preferred — it's difficult to accept himself, especially when the criticism is tied directly to his identity. In a grotesque scene, Schoenberg encounters anti-Semitism in a beach scene that ends with the Nazi flag being unfurled on the sand and Schoenberg leaving.

The staging of this opera is limited by the Paramount Center's design, as the orchestra usually performs in the pit in front of the stage. The orchestra here performs in the back of the stage, hidden behind a moveable wall, and a sound system designed by grad student Ben Bloomberg is used to project music to the entire audience. In one dramatic moment, the back wall lifts to reveal the musicians visible through the cracks of a "wall" built from rotating triangular pieces. The brilliance of warm lights and the literal breaking of the fourth wall drives home the thin boundary between audience and actor, singer and composer, music and film. Why not have an opera that draws boundaries together?

Here we have an opera that plays with its limitations. "Play" is a curious word: we play as children, we play with words, we play around, we play as actors of other people, and naturally, we play music. This is an opera about how humans manipulate sound. Omar Ebrahim plays an intense Schoenberg who switches his accent to suit the projected film at the time. Schoenberg's compositions use 12-tones and tend to steer clear of something so vanilla as pleasant harmonies. This opera's Schoenberg is a creative player, but also a fighter; he cycles around and around before accepting Judaism, he hurtles forward into the future with his musical sensibilities, he falls in love and loses people and runs, but he eventually finds a home in himself. Remember the composer of "degenerate music" Schoenberg who tells us, "I am only Schoenberg," and asks, "Am I only Schoenberg?" before declaring, triumphant, "Only I am Schoenberg."

VIDEO GAME REVIEW

The Captain did it

The kraken, the crabs, and the Obra Dinn

By Nathan Liang and Torri Yearwood
EDITORS

Before we start, here are some disclaimers: this game contains freeze-frame scenes of intense violence and gore. The sound design of the game can also be really disturbing, but that will be addressed in more detail later in this review. Additionally, this game is intellectually challenging and will do no hand-holding for the player. If you wanted to play a chill game, *Return of the Obra Dinn* is not for you. Now, let's dive into death.

Return of the Obra Dinn features a woman who works as an insurance adjuster for the East India Company. Given an empty journal and a magical pocket watch, the insurance adjuster is sent to the empty husk of a ship that is the Obra Dinn. Shortly after arriving on the ship, the protagonist finds a skeleton and thus reveals the power of said magical pocket watch: the ability to see into a frozen snapshot of how the deceased died and to hear relevant dialogue prior to this scene. Once this power has been unlocked, the game expects you, the humble player, to then discover the secrets of the Obra Dinn with no other prompting other than the handful of tutorial tips granted to you in the beginning.

Let's start with gameplay mechanics. The entire game is seen from the first-person perspective of the insurance adjuster. Moving around the ship is easy, if not a bit tedious when you are forced to return to certain memories over and over again in order to unlock more pieces of the puzzle. Then there is the journal, granted to you by Henry Evans, who asks you to return the journal to Morocco upon full completion of its contents.

★★★★★

Return of the Obra Dinn

Developed by Lucas Pope

Published by 3909

No Rating

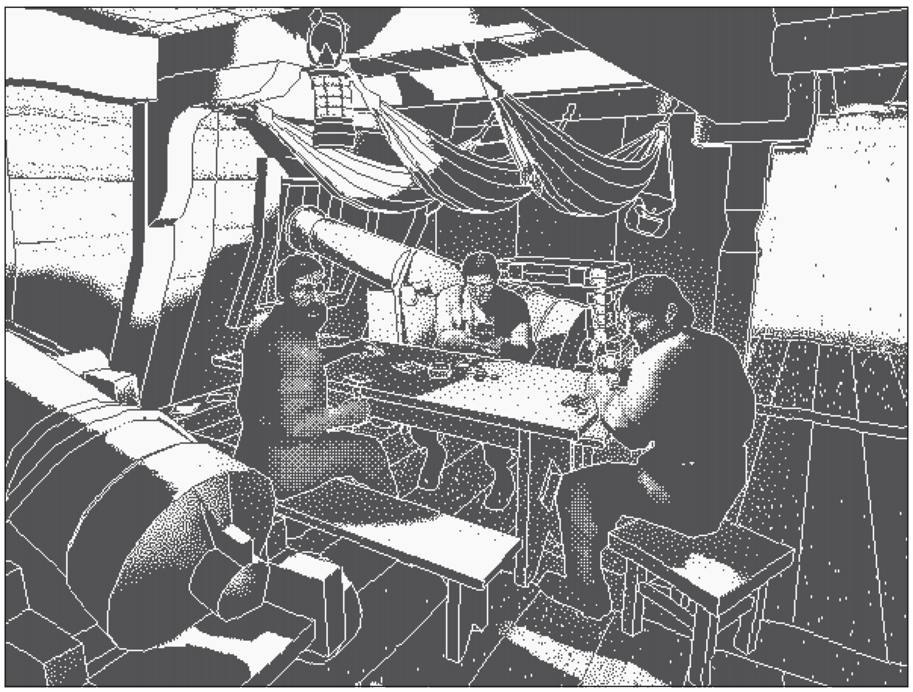
Available on PC and Mac

Upon reflection of this game, we were quite amazed at the usage versatility of the journal. In most games where an always-accessible handbook is granted to the player for reference, it is either rarely used or only parts of it are used while the rest of the book is superfluous. In the case of *Return of the Obra Dinn*, however, it is quite refreshing to see that every single section of the journal is handy to the player. Yes, even the glossary helped a lot at some points during our playthrough.

Now for the narrative. You pick up bits and pieces of what happened solely by the death scenes of everyone originally onboard the Obra Dinn. The pacing of the game helps to gradually reveal the story, but also to shock players before letting them get used to the situation at hand. There were several times when we were outright surprised, horrified, or a combination of both to see the scene presented before us, but due to the freeze-frame nature of the memories, we were allowed to explore the scene and acclimate to the circumstances. The memories also subtly reveal the lore, personalities, and motivations of all involved in the alleged tragedy of the Obra Dinn.

The player can be as involved in the story as they wish. In order to unlock the latter half of the fates we were missing, we had to sit down and take notes on every memory in chronological order. The beauty of this was that with so many subtle hints and connecting pieces, the entire story could be revealed in full with only one pass through the memories. But this ordeal took us three hours.

Another thing we came to appreciate is the ambiguity that dialogue introduces into each memory. Prior to every freeze-frame of death, the player listens to dialogue or noises that occur immediately before the person of interest dies. Because of this juxtaposition, it's sometimes not entirely clear who is being referred to as O'Hagan or whether or not that dying person is actually that one dude's son; your assumptions early on can either be totally correct and save you time, or they can be totally wrong and cost you time reworking all the labels you had previously assigned.


COURTESY OF LUCAS POPE

Three sailors play poker in the orlop deck of the Obra Dinn.

The sound design in this game is as carefully constructed as the narrative and mechanics. The intricacy of the sound design makes you appreciate yet another aspect into which Lucas Pope put a lot of time and effort, but also makes you question how he could have sat through designing the entire soundtrack. There are definitely sound bytes where the noises are so graphic, you can't help but cringe upon imagining what the sounds suggest, whether it be someone being ripped apart or someone being crushed to death. However, the the devils are in the details, and even the sounds (and corresponding dialogue cards) can reveal important pieces of information, from how a person dies to what nationality someone in the current memory belongs to.

No discussion of sound design could go without a word about the impressive soundtrack. Each track was appropriately dramatic to the situation, matching the mood at every turn. Furthermore, each chapter had its own musical feel; every track therein being both related to its peers and subtly distinct to carry the weight of the scene in the larger context. Without missing a beat, the music helps build suspense where time is stopped and fear where nothing can harm you, quite the feat for a one-man orchestra.

A no less impressive, and perhaps even more pervasive, aspect of the game's distinctive and fantastic aesthetic is the one-bit pointallist visuals. While the game is written in Unity, Lucas Pope wanted to recreate the one-bit, black and white graphics of the old Mac games of his youth — *Dark Castle*, *Shadowgate*, and the like — in a modern 3D game, and he delivered. Creating his own dimpling algorithms and endlessly rewriting Unity libraries, he creates a complex of visuals that deepen the mystery without getting too much in the way, while also being believable. The only time when the the low(-ish) pixel count gets in the way is when identifying faces, a problem that is fixed by a mechanic which easily allows you to lookup a person from a memory in the journal.

If you are up to the challenge, we highly recommend you play the mystery masterpiece that is *Return of the Obra Dinn*. For reference, it took us approximately 10 hours to complete the game in full, but we enjoyed every second of those 10 hours, even if we were frustrated to no end at some points. The entire experience of accurately documenting the events of the Obra Dinn can be immensely satisfying for those willing to put in the work. And if you still somehow are not convinced of whether or not you should play this game, we wish we could erase our memories of the story's secrets so that we could play through it again.

Adobe Acro...
AIMP
Allegro
Aparat
Behance
Business Ca...
CamScanne...
Chomikuj.pl
Chrome
Currents
Dysk
Earth
Evernote
Facebook
feedly

Tweet the best tweets?
Post the best posts?
Get a million likes on both?

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Stuffing

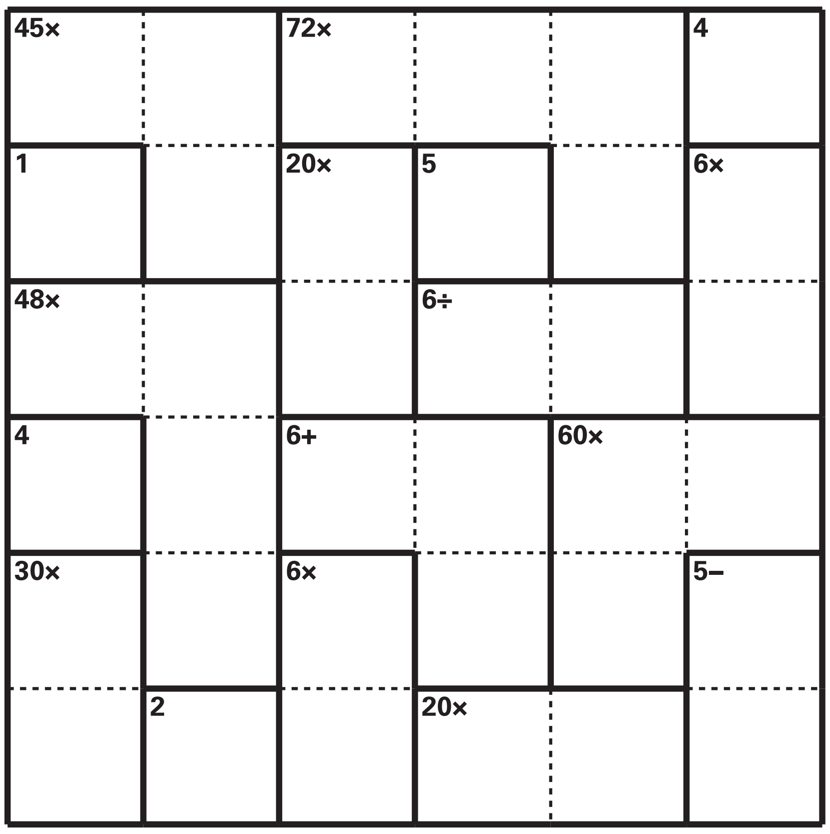
Solution, page 3

2			3					
		8		4		2		
				8	1	9		3
		4		7			6	
7		6	4		2	1		5
	8			5		4		
8		7	5	1				
		9		2		7		
					4			8

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Turkey

Solution, page 3



45×		72×			4
1		20×	5		6×
48×			6÷		
4		6+		60×	
30×		6×			5–
	2		20×		

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Composer Creations by Fred Piscop

Solution, page 3

1	2	3	■	■	4	5	6	7	8	■	9	10	11	12
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17				18						19				
20					■	21			■	22				
23					24	■	■	■	25			■	■	■
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33	34	35	36	■	37					■	38			
39				■	■	40			■	■	41			
42				■	43				44	■	45			
46				47						48	■	■	■	■
■	■	■	49			■	■	■	50		51	52	53	54
55	56	57			■	58	59	60	■	61				
62					63				64					
65				■	66					■	67			
68				■	69					■	■	70		

ACROSS

1 Purge (of)
4 Seated patrons, for short
9 Pinch hitters
13 Regretful comment
15 Japanese terse verse
16 Egypt, in part
17 Leave Messiah in a hurry
20 Tot's outdoor game
21 Brief call for help
22 Performed poorly
23 Where the Wild Things Are author
25 DVD player brand
26 Study the Surprise Symphony
33 Old Testament prophet
37 Capture suddenly
38 Successor of Claudius
39 Suppose
40 Up-point connector
41 __ the wiser
42 Long-term reserves
43 Pacing
45 GI offense
46 Perform better than Hungarian Rhapsodies
49 Monitor closely
50 Bicycle seat
55 Captivate
58 Personal ad letters
61 Unaccustomed to
62 Throw out all your fugues
65 Stone of films
66 Northern Israeli city
67 Home for a sloth
68 Paper quantity
69 Former Postal Service mascot
70 2014 Burns miniseries subject

DOWN

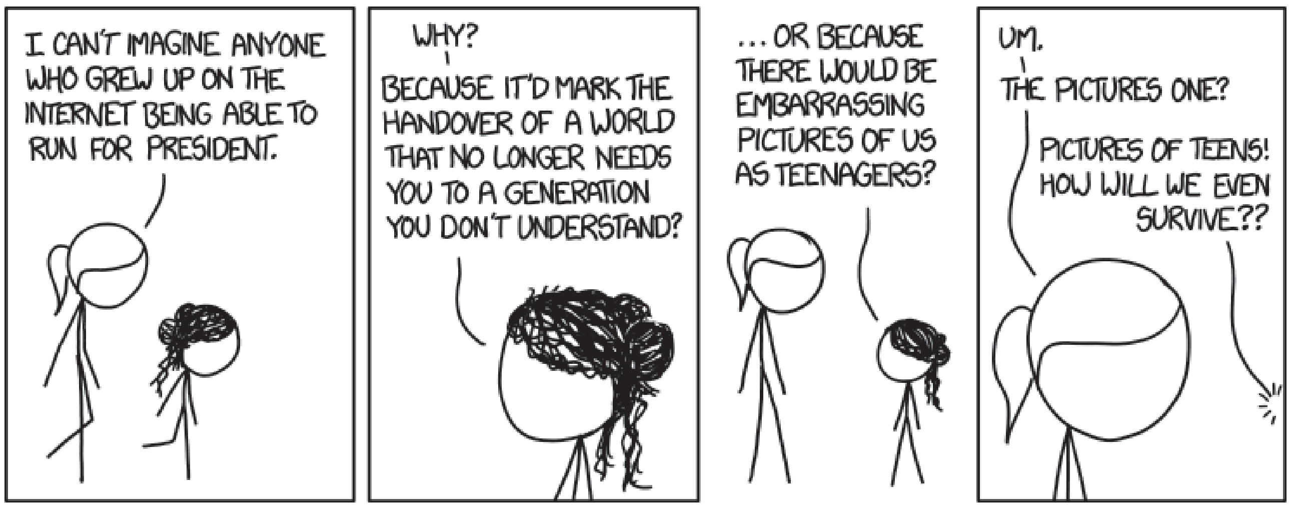
1 Whole bunch
2 "That's amazing!"
3 Six-Day War hero
4 TV band of old
5 Certain admissions exams
6 Kermit's greeting
7 Squeaks (out)
8 "Well, obviously!"
9 Alamo attacker
10 ORGANIC seal bestower
11 Well, to Juan
12 Polio conqueror
14 "You've got a deal!"
18 Moving part on some mailboxes
19 Novelist Sholem
24 10-counts on canvas
25 Common sushi filling
27 Undercover acquisition
28 Wynonna's mom
29 Hidden hazards
30 Comics cry
31 First 007 film
32 Seasonal refrain
33 Tighten, as text
34 "The big doughnut"
35 Pick peppers, perhaps
36 Heineken's headquarters
43 Where a hole begins
44 Parts of pts.
47 Song of praise
48 Zesty taste
51 Subtraction to obtain net worth
52 Doc, for one
53 Tied together
54 Clear sky
55 Meryl's mom in the Mamma Mia! sequel
56 Word before free or front
57 __ mater
58 Center symbol on a Scrabble board
59 Virtuoso
60 Generic poodle name
63 Measure that sounds like a mantra
64 Quick break

xkcd

A webcomic of romance, sarcasm, math, and language

by Randall Munroe

[1370] President


I CAN'T IMAGINE ANYONE WHO GREW UP ON THE INTERNET BEING ABLE TO RUN FOR PRESIDENT.
WHY?
BECAUSE IT'D MARK THE HANDOVER OF A WORLD THAT NO LONGER NEEDS YOU TO A GENERATION YOU DON'T UNDERSTAND?
...OR BECAUSE THERE WOULD BE EMBARRASSING PICTURES OF US AS TEENAGERS?
UM.
THE PICTURES ONE?
PICTURES OF TEENS! HOW WILL WE EVEN SURVIVE??

Anyone who thinks we're all going to spend the 2032 elections poring over rambling blog posts by teenagers has never tried to read a rambling blog post by a teenager.

LAB SPOTLIGHT

Preparing for disaster

The Urban Risk Lab works to incorporate disaster preparedness into local infrastructure

By Jordan Harrod

STAFF WRITER

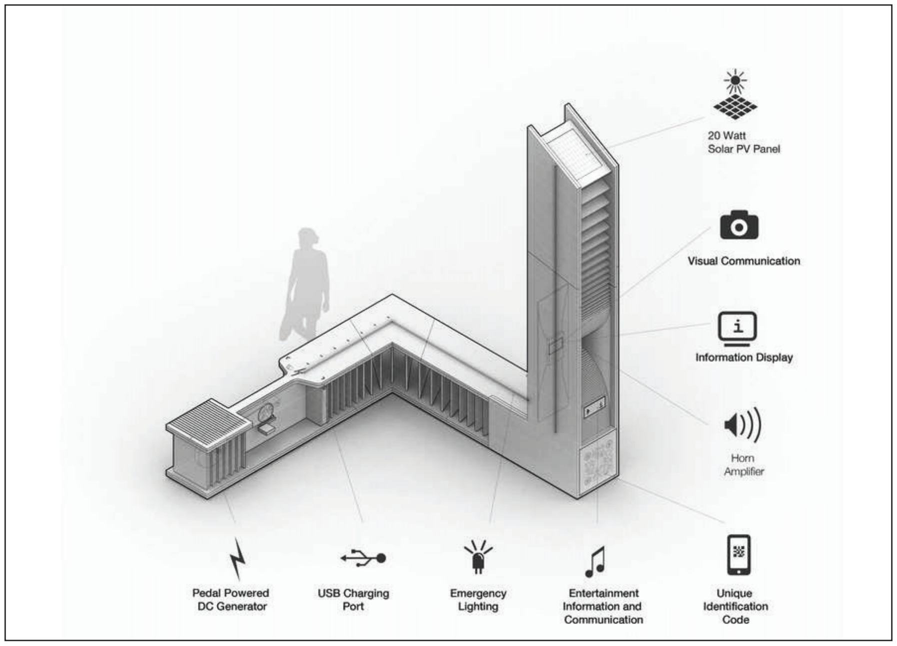
Despite current advances in technology and increases in quality of life in the modern era, natural disasters are one of the few forces that still have the power to wipe out homes and uproot entire communities. As recent hurricanes have shown, many regions of the United States are not always as prepared as they would like to be in the event of a natural disaster. This lack of preparedness is only magnified in regions with less infrastructure and lacking in modern technology.

The Urban Risk Lab, led by Associate Professor of Architecture and Urbanism Miho Mazereeuw, aims to develop and provide integrated solutions for disaster preparedness, focusing on natural disasters and environmental impact research. Their work spans technology development, artificial intelligence, and policy proposals, all with the goal of leveraging partnerships and local resources to develop action-based research solutions that integrate disaster preparedness systems into a region's infrastructure. From computer scientists to stenographers to artists, researchers in the lab exemplify this interdisciplinary effort by stemming from a wide range of academic, non-profit, and industry backgrounds.

One project that the MIT community might be familiar with is the PREPHub, a project which aimed to integrate disaster resilience solutions into local infrastructure by developing multi-use public fixtures that offered charging stations, supply storage, and communication systems. One of these hubs sat in front of Building 9 on Massachusetts Ave two years ago, providing a charging station, a DC electricity generator, photo booth, interactive map and emergency lighting, all in the form of a public seating area. Those interested in learning more about the white plastic structure only had to point their phones at the QR code displayed on one side of the bench to learn more about the short-term emergency response measures integrated into the hub.

While prototype displays of these disaster preparedness solutions make large strides in informing the public, Mazereeuw's group went the extra mile to deliver fully-developed disaster preparedness systems to international communities. After the 2015 earthquakes in Nepal, the Urban Risk Lab began collaborating with communities affected by the disaster to help with the recovery and to prepare for future events. PREPHub Nepal incorporated their disaster preparedness into Paatis, open-air pavilions found on most street corners that offer community activities. This PREPHub contains a water purification system, water storage, public lighting, emergency equipment and supplies. By integrating PREPHub Nepal into community spaces managed by local leaders, the lab provided an everyday resource that also saves lives in the event of a disaster.

More recently, the Urban Risk Lab has applied their skills to rebuilding Puerto Rico after Hurricane Maria. The Federal Emergency Management Agency (FEMA) approached the lab for advice on a holistic and comprehensive approach to post-disaster housing. Larisa Ovalles, a research associate in the lab, is currently working with Enterprise Community Partners and the University of Puerto Rico to develop housing manuals that outline safe construction practices to better inform residents on ways to build disaster-resistant homes. "Puerto Rico has a lot of informal housing [homes built without permits and not to building code standards] that could be built to be much safer standards without too much extra expense," said Ovalles.



COURTESY OF THE URBAN RISK LAB

The Urban Risk Lab developed PREPHub, a disaster preparedness system that can be integrated into community centers and local infrastructure to limit the impacts of natural disasters and provide an everyday resource to the community.

Even from Cambridge, the Urban Risk Lab is working to connect emergency operation centers to regions that need disaster support. Graduate student Abraham Quintero and research scientist Aditya Barve use machine learning to help emergency operations centers make decisions using real-time disaster reporting from affected communities via Twitter and Facebook. "Developing nations do not have as much data and flood models like the United States does," said Quintero. This data scarcity makes it difficult to address natural disasters. However, in the era of social media, there are millions of Twitter users in Jakarta who report on natural disasters in their areas in real time. By developing a chatbot to reach out to those people during emergencies, emergency personnel in Jakarta get real-time updates on the state of a flood and the communities that need support. Quintero is currently looking to use machine learning to triage and interpret these updates for emergency centers, as to not overwhelm them with the new influx of information.

Mazereeuw and her team do everything from travelling to the site of a project to meet with community leaders to making their work available to the public on their website and incorporating disaster preparedness into the local infrastructure of the communities they visit. The Urban Risk Lab has worked to shift the national and global status quo from handling a disaster once it has occurred to investing in preventive solutions that mitigate the severity of natural disasters. In doing so, they rely on the different backgrounds and cultures that each collaborator and member of the lab brings to the table to create solutions that leverage new technological breakthroughs towards the specific community needs outlined by the people who live there.

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NIGHTMARKET

Nightmarket is an annual festival of Asian culture organized by several Asian groups across campus, including the Asian American Association, the Chinese Students Club, and the Association of Taiwanese Students. On Friday, Nov. 16, students from universities across Cambridge gathered in Lobby 13 for Asian cuisine, games, and performances put on by groups such as MIT Asian Dance Team and Harvard Wushu.

Photography by Katya Bezugla—The Tech